Proposed Item for Biobased Designation

The following biobased product information has been collected to support item designation by USDA for the BioPreferred Program. This summary reflects data available as of May 14, 2009.

Title: Leather, Vinyl, and Rubber Care Products

Description: Products that help clean, nourish, protect, and restore leather, vinyl, and rubber surfaces including cleaners, conditioners, protectants, polishes, waxes, etc.

Companies Supplying Item: 36 companies supplying Leather, Vinyl, and Rubber Care Products have been identified through internet searches, manufacturer's directories, trade associations, and company submissions.

Industry Associations Investigated: The following industry associations have been investigated for member companies supplying Leather, Vinyl, and Rubber Care Products:

- American Leather Chemists Association
- The Association of Master Upholsterers and Soft Furniture
- Biobased Manufacturers Association
- British Footwear Association
- International Council of Hides Skins and Leather Traders Association
- International Council of Tanners
- International Tire and Rubber Association
- The Leather Conservation Centre
- Leather Industries of America
- The Leather Institute
- Leather Research Laboratory
- Multimaster-Uniters Group
- National Corn Growers Association
- North American Recycled Rubber Association
- The Real Sheepskin Association
- Rubber Manufacturers Association
- Society of Leather Technologists and Chemists
- United Soybean Board Association
- The United States Hide Skin & Leather Association
- Vinyl Institute

Commercially Available Products Identified: Of the companies identified, 83 Leather, Vinyl, and Rubber Care Products are commercially available on the market.

Product Information Collected: Specific product information including company contact, intended use, biobased content, and performance characteristics have been collected on 4 Leather, Vinyl, and Rubber Care Products.

Industry Performance Standards: Product information submitted by biobased manufacturers and suppliers indicate that have typically been tested to the following industry standards:

- ASTM D4488: Standard Guide for Testing Cleaning Performance of Products Intended for Use on Resilient Flooring and Washable Walls
- GS-37: Green Seal Environmental Standard for General-Purpose, Bathroom, Glass, and Carpet Cleaners Used for Industrial and Institutional Purposes

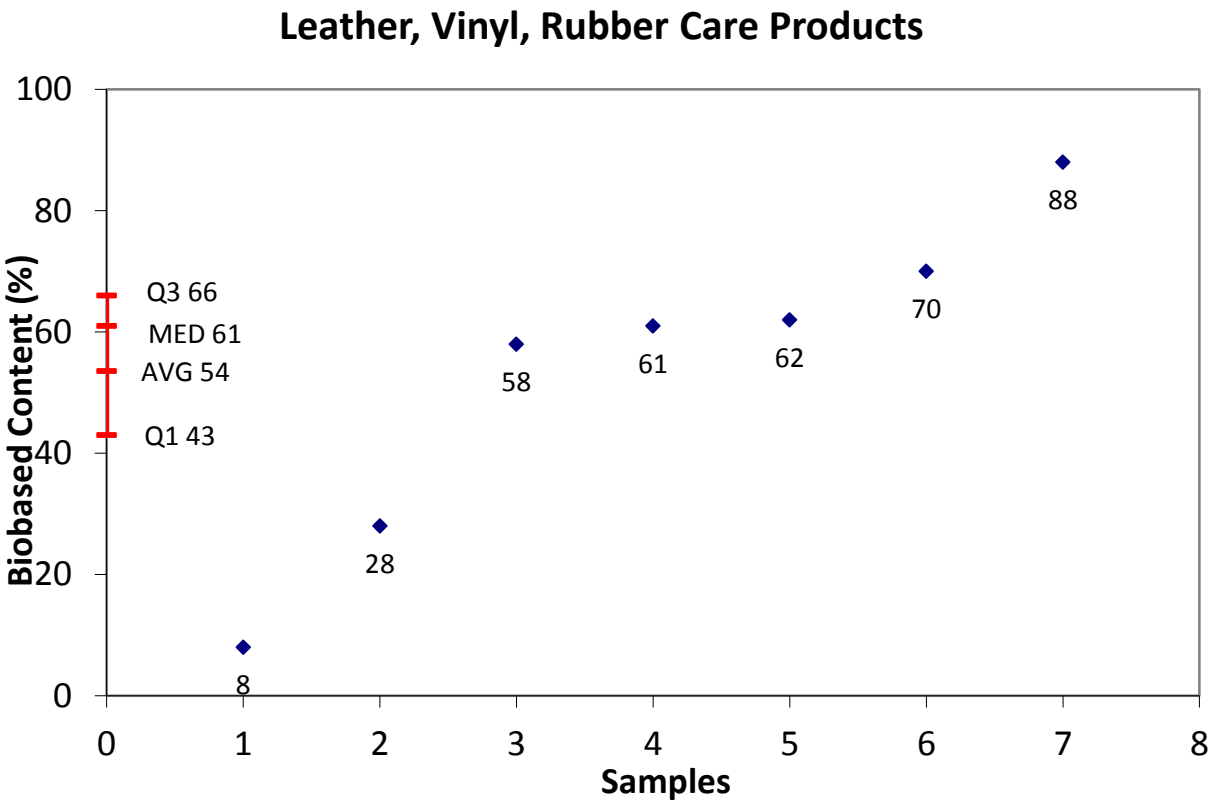
Samples Tested for Biobased Content: 7 samples of Leather, Vinyl, and Rubber Care Products have been submitted to independent laboratories for biobased content testing as specified by ASTM standard D6866.

Biobased Content Data: Results from biobased content testing of Leather, Vinyl, and Rubber Care Products indicate a range of content percentages from 8 minimum to 88 maximum biobased content as defined by ASTM D6866. A detailed distribution of biobased content levels is included as Appendix A.

Products Submitted for BEES Analysis: Life-cycle cost and environmental effect data for 2 Leather, Vinyl, and Rubber Care Products have been submitted to NIST for BEES analysis.

BEES Analysis: The life-cycle costs of the submitted Leather, Vinyl, and Rubber Care Products range from $32.00 minimum to$37.50 maximum per usage unit. The environmental scores range from 0.0088 minimum to 0.0195 maximum. A detailed summary of the BEES results is included as Appendix B.

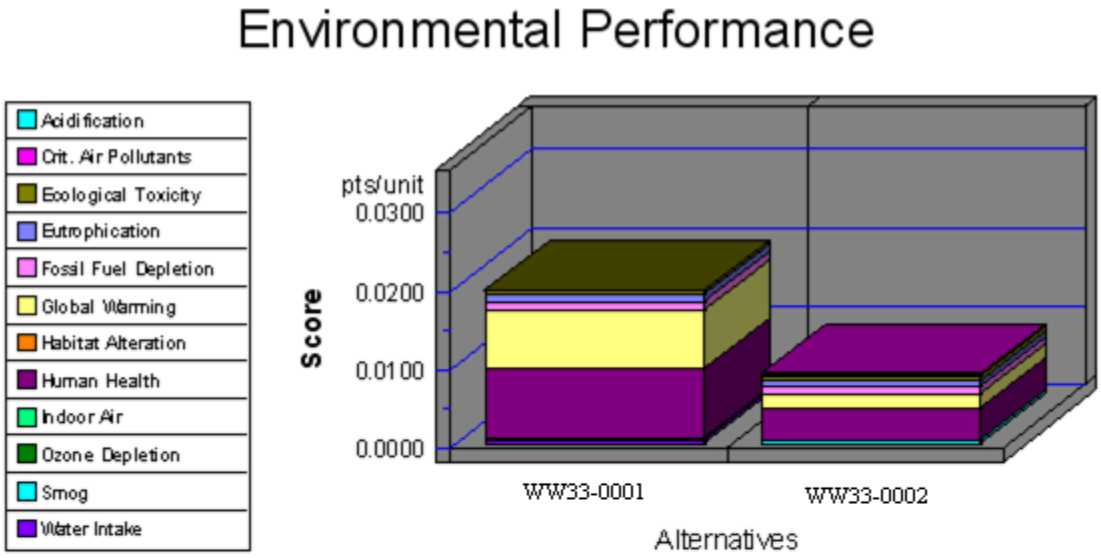
Appendix A - Biobased Content Data



	Company	Product	C14	BEES
1	K944	K944-0001	8	
2	U4WQ	U4WQ-0010	28	
3	U119	U119-0003	58	Yes
4	U2G2	U2G2-0001	61	
5	G2U2	G2U2-0001	62	
6	G2U2	G2U2-0007	70	
7	G2U2	G2U2-0012	88	Yes

Appendix B - BEES Analysis Results

Functional Unit: 1 gallon



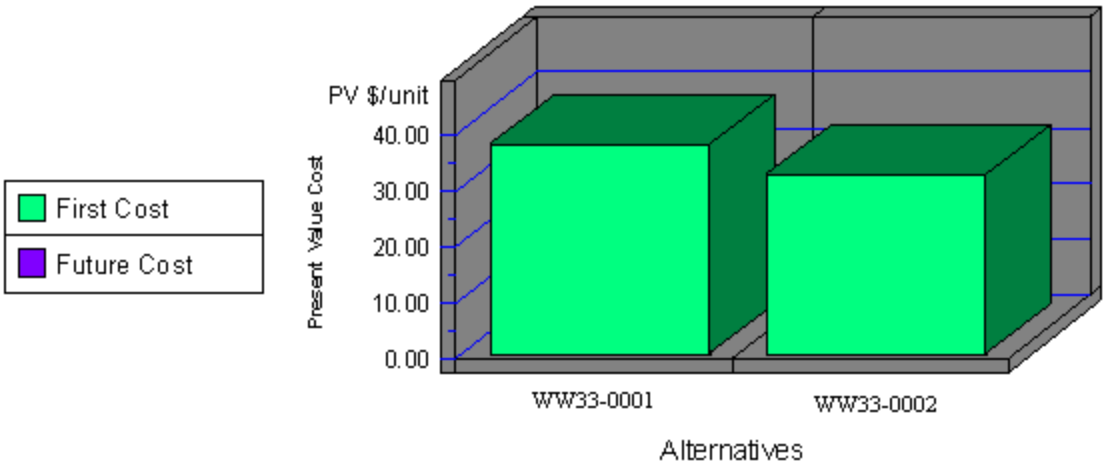
Note: Lower values are better

Category	WW33-0001	WW33-0002
Acidification--3%	0.0000	0.00000
Crit. Air Pollutants--9%	0.0001	0.00010
Ecolog. Toxicity--7%	0.0004	0.00070
Eutrophication--6%	0.0008	0.00060
Fossil Fuel Depl.--10%	0.0012	0.00100
Global Warming--29%	0.0075	0.00180
Habitat Alteration--6%	0.0000	0.00000
Human Health--13%	0.0086	0.00410
Indoor Air--3%	0.0000	0.00000
Ozone Depletion--2%	0.0000	0.00000
Smog--4%	0.0004	0.00030
Water Intake--8%	0.0005	0.00020
Sum	0.0195	0.0088

Leather, Vinyl, and Rubber Care Products			
Impacts	Units	WW33-0001	WW33-0002
Acidification	millimoles H^+ equivalents	8.10E+02	6.88E+02
Criteria Air Polutants	microDALYs	1.78E-01	1.41E-01
Ecotoxicity	g 2,4-D equivalents	5.03E+00	8.44E+00
Eutrophication	g N equivalents	2.65E+00	1.82E+00
Fossil Fuel Depletion	MJ surplus energy	4.32E+00	3.62E+00
Global Warming	g CO_2 equivalents	6.61E+03	1.62E+03
Habitat Alteration	T&E count	0.00E+00	0.00E+00
Human Health--Cancer	g C_6H_6 equivalents	5.60E+00	2.67E+00
Human Health--NonCancer	g C_7H_8 equivalents	1.42E+03	1.81E+03
Indoor Air Quality	g TVOCs	0.00E+00	0.00E+00
Ozone Depletion	g CFC-11 equivalents	7.37E-07	8.34E-06
Smog	g NO_x equivalents	1.57E+01	1.28E+01
Water Intake	liters of water	3.33E+01	1.38E+01
Functional Unit	----------	1 gallon	

1 Following are more complete descriptions of units: Acidification: millimoles of hydrogen ion equivalents; Criteria Air Pollutants: micro Disability-Adjusted Life Years; Ecological Toxicity: grams of 2,4-dichlorophenoxy-acetic acid equivalents; Eutrophication: grams of nitrogen equivalents; Fossil Fuel Depletion: megajoules of surplus energy; Global Warming: grams of carbon dioxide equivalents; Habitat Alteration: threatened and endangered species count; Human Health-Cancer: grams of benzene equivalents; Human Health-NonCancer: grams of toluene equivalents; Indoor Air Quality: grams of Total Volatile Organic Compounds; Ozone Depletion: grams of chloroflourocarbon-11 equivalents; Smog: grams of nitrogen oxide equivalents; and Water Intake: liters of water.

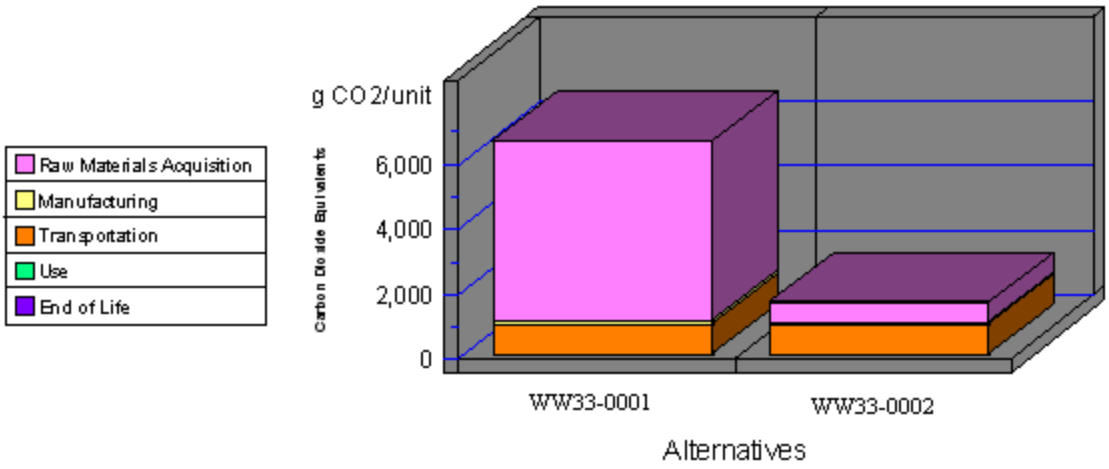
Economic Performance *



Category	WW33-0001	WW33-0002
First Cost	37.50	32.00
Future Cost– 3.0%	0.00	0.00
Sum	37.50	32.00

*This is a consumable product. Therefore, future costs are not calculated.

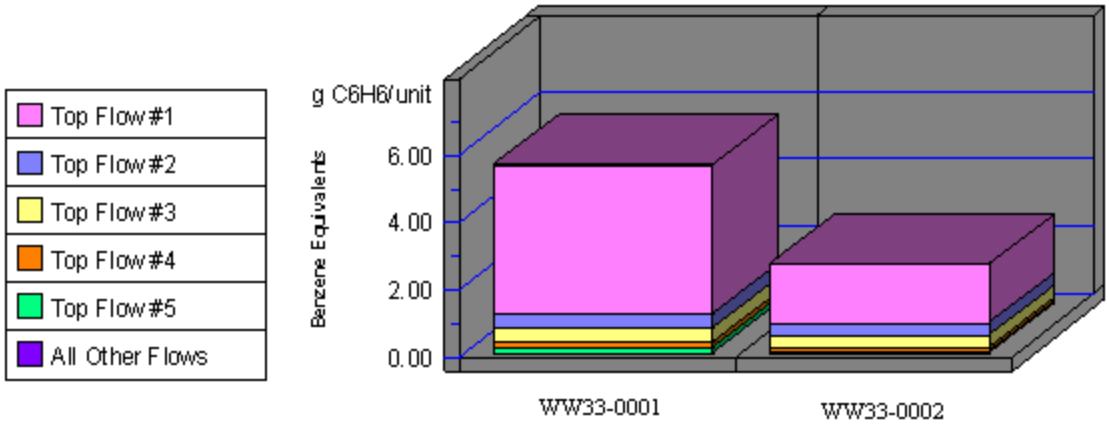
Global Warming by Life-Cycle Stage



Note: Lower values are better

Category	WW33-0001	WW33-0002
1. Raw Materials	5546	629
2. Manufacturing	131	13
3. Transportation	929	973
4. Use	0	0
5. End of Life	0	0
Sum	6607	1615

Human Health Cancer by Sorted Flows*

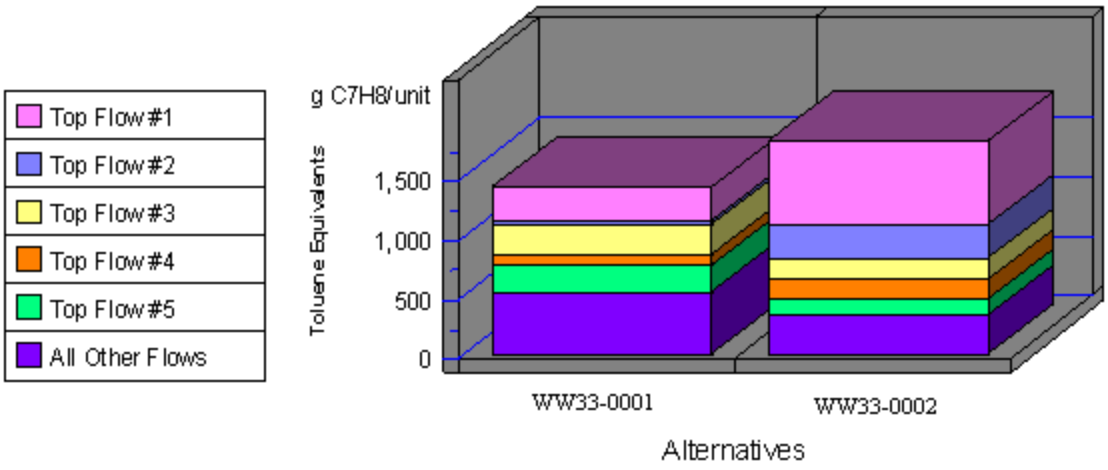


Note: Lower values are better

Category	WW33-0001	WW33-0002
Cancer--(a) Ethylene Oxide	4.39	1.74
Cancer--(w) Arsenic (As3+,	0.45	0.36
Cancer--(w) Phenol (C6H5OH)	0.42	0.36
Cancer--(a) Dioxins (unspecifie	0.18	0.11
Cancer--(a) Arsenic (As)	0.11	0.07
All Others	0.04	0.03
Sum	5.60	2.67

*Sorted by five topmost flows for worst-scoring product

Human Health Noncancer by Sorted Flows*



Note: Lower values are better

Category	WW33-0001	WW33-0002
Noncancer–(a) Mercury (Hg)	294.44	711.45
Noncancer–(w) Mercury (Hg+,	32.15	275.98
Noncancer--(w) Barium (Ba++)	252.03	185.21
Noncancer--(a) Lead (Pb)	82.45	165.26
Noncancer--(a) Dioxins (unspeci	222.07	133.32
All Others	538.20	337.75
Sum	1,421.35	1,808.98

*Sorted by five topmost flows for worst-scoring product